

LPC # 0316555112, Cook County
Schroud Realty Group, Chicago
aka: Schroud property
SF/HRS

CERCLA

Preliminary Assessment



Prepared by:
Office of Site Evaluation
Division of Remediation Management
Bureau of Land

CERCLA
Preliminary Assessment

For:

SCHROUD PROPERTY

CHICAGO, ILLINOIS

PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
OFFICE OF SITE EVALUATION

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Section 1.0 Introduction

On January 7, 2015, the Illinois Environmental Protection Agency's (Illinois EPA) Office of Site Evaluation was tasked by the United States Environmental Protection Agency (U.S. EPA) Region V to conduct a Preliminary Assessment (PA) at the Schroud Property site in Chicago, Cook County, Illinois (see Figure 1). The site is located on the southwest corner of 126th Street and Avenue O. The approximate latitude is 41°39'45.38"N and longitude 087°32'36.60"W for the center of the property.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300) requires that a Preliminary Assessment be performed on all sites entered into the Comprehensive Environmental Response, Compensation, and Liability Information System, now known as the Superfund Enterprise Management System (SEMS). U.S. EPA's inventory of hazardous waste sites.

A Preliminary Assessment is an early step in the Superfund process that utilizes a limited-scope investigation and collects readily available information. The Preliminary Assessment distinguishes between sites that pose little or no threat to human health and the environment and those that require further investigation. The Preliminary Assessment also supports emergency response and removal activities, fulfills public information needs, and generally furnishes appropriate information about the site early in the assessment process.

If the findings of the Preliminary Assessment determine that further investigation is warranted, the site will continue to progress through the Superfund evaluation process and receive a Site Inspection. The Site Inspection will provide necessary information that will help determine if the site qualifies for possible inclusion on the National Priorities List (NPL) or should be archived and receive a No Further Remedial Action Planned (NFRAP) qualifier. At any time throughout the Superfund evaluation process, the site may be assigned NFRAP status, be referred to another state or federal clean-up program, or recommended for another action. The Preliminary Assessment is performed under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) commonly known as Superfund.

Section 2.0 Site Background

2.1 Site Description

The Schroud Property is located in Cook County, South Chicago on the corner of 126th Street and Avenue O in South Chicago, 60633 (see Figure 2). It is in Illinois's 2nd Congressional District and the Hyde Park Township, Section 30, Township 37 North, Range 15 East. The Property Identification Number (PIN) of the property is 26-30-416-010-0000 and the official address is 12800 S. Burley Avenue. The area consists of approximately 67 acres located in a mixture of residential, state, and industrial properties. There are no structures on the premises and the property lacks utility services.

The Schroud Property is located immediately north of residential neighborhoods separated by railroad tracks. The William W. Powers State Recreation Area is located directly to the east of the site; just beyond Avenue O. Most of the William W. Powers State Recreation Area consists of Wolf Lake, an 804 acre lake that is located in both Illinois and Indiana. Illinois controls 380 acre of the western portion of Wolf Lake, where it is designated a state fishery by the Illinois Department of Natural Resources (IDNR). Wolf Lake and the surrounding Recreation Area is also known habitat for endangered birds, fish, and flora. Multiple businesses are located to the north of the Property across 126th Street. There is not a clear boundary for the Schroud property to the west, but historically, South Burley Road (now abandoned) provided the western border of the property. Beyond the former South Burley Road there is a buffer of trees, a set of railroad tracks, followed by marsh land mainly consisting of phragmites.

The Schroud property can be accessed via a gravel road that enters from 126th Street on the northeastern part of the property. The surface of the 67 acre property consists mostly of slag material once produced from Republic/LTV Steel. The Republic facility was located on 118th Street and was adjacent to the Calumet River. Slag was hauled from the Republic facility to the Schroud Property; hauling continued once LTV Steel purchased Republic Steel in the early 1980's. In the center of the 67 acre property are two larger piles of waste hauled from the Republic/LTV facility on 118th Street. Dozens of other smaller slag piles are located throughout the site. Slag dumping is estimated to have occurred from 1951 to 1977. The larger piles of slag reach to approximately 30 feet in height. These piles are not vegetated and are susceptible to both wind and water erosion. In addition to the piles, slag covers the ground over the majority of

the property. Prior investigations have indicated that there are elevated lead, manganese, and chromium levels in the soil. In addition to the mounds and piles of slag, the previous investigations also noted illegal dumping of clay, concrete, construction debris, and metals.

Flowing through the northern portion of the property and parallel to 126th Street is Indian Creek. According to the National Wetland Inventory Maps (NWI) Indian Creek is a perennial body of water that flows west-northwesterly, connecting Wolf Lake and the Calumet River. It flows from Wolf Lake west-northwesterly into the Calumet River. Fish and other aquatic wildlife have been documented living in the creek. The IDNR notes that Chinook salmon travel through Indian Creek every fall to reach their spawning grounds of Wolf Lake.

Multiple wetlands also surround Indian Creek and the Calumet River (see Figure 4). There are three wetlands directly adjacent to the property. According to the NWI the three wetlands are classified as freshwater emergent wetlands. One such wetland is located directly west of the property. Another wetland is located directly east of the property between the Schroud Site and Avenue O. This eastern wetland is classified as a scrub-shrub wetland in addition to being an emergent wetland. Lastly, another wetland is in the southeastern corner of the property. This wetland has three high-tensioned power line towers constructed within it. Multiple towers are also constructed toward the north and within the eastern wetland. Similar towers carry lines toward the northwest from the southeast wetland location. Due to the property's proximity to thousands of residents, multiple wetlands, and a fishery, it could pose a serious potential threat of contamination.

2.2 Site History

South Chicago has historically been known worldwide as a major steel production location; the Schroud property's history is essentially exclusively steel-related. As detailed in the Phase I Environmental Site Assessment, aerial photography shows that the property was vacant in 1938. Photographs from 1952 suggest that the property looked vacant, but other reports indicate that dumping may have been occurring around this time. The photographs from 1963 and 1973 illustrate severe soil disturbance and dumping in the area, with the 1973 photograph

recording numerous roads throughout the property. The 1988 photograph shows the area as vacant; dumping ceased in the late 70s.

The property was used as a dumping ground for Republic Steel, particularly during the years 1971-1977. Republic Steel owned a factory along the Calumet River on 118th Street approximately $\frac{3}{4}$ of a mile to the north of the Schroud property. Republic Steel transported and dumped slag waste from steelmaking, and likely other materials, at the Schroud property. In 1984, Republic Steel merged with LTV Corporation to form LTV Steel, which assumed ownership of the Schroud property and the factory to the north. LTV Steel continued its steel production at the factory on 118th Street until approximately 1996. There are no records, however, of LTV Steel using the Schroud property as a slag dumping ground during the factory's operation in the 1980's and 1990's. After 1977, it appears both Republic and LTV Steel used landfill practices to dispose of waste.

In March 1994, a private owner purchased the Schroud property with the intention of developing the property. A Phase I Environmental Site Assessment was conducted by ENTRIX, Inc. in 1999 as requested by the City of Chicago's Department of Environment (DOE). The assessment determined that slag was dumped by Republic Steel to a depth of approximately 30 feet. The report concluded that the owners of the Schroud Property should test and investigate subsurface soil and groundwater in order to determine the environmental impacts of the area.

During the 1990's and early 2000's, the Schroud Property was inspected numerous times by the City of Chicago for dumping and landfill violations. It was observed that in addition to slag, other construction debris including wood, clay, concrete, and bricks, were dumped on the property. The vacant nature of the Schroud Property encouraged illegal dumping throughout the years, which is prevalent to this day.

In 2002, the City of Chicago requested that the U.S. EPA Region 5 Emergency Response Branch evaluate the site. U.S. EPA Region 5 contracted TN & Associates to conduct a Site Assessment for the Schroud property. During the 2002 investigation, eleven soil samples were collected throughout the property. Each sample was collected at six inches below ground surface (bgs). The samples were analyzed for total metals and Toxicity Characteristic Leaching Procedure (TCLP) metals. Laboratory results revealed that lead, chromium, and manganese were

present at levels that exceeded State of Illinois benchmarks for Industrial/Construction scenarios in inhalation/ingestion routes. However, no removal actions were conducted as a result of this evaluation.

On June 27, 2008, an application for enrollment to Illinois EPA's Site Remediation Program (SRP) was submitted by Schroud Realty. The application requested that the Illinois EPA issue a No Further Remediation (NFR) letter for the Schroud Property so the owner could begin developing the area. The site owner wanted to use the data from the 2002 U.S. EPA investigation as a basis for the NFR letter. The Illinois EPA responded that additional information was needed before a NFR letter was issued and that the 2002 U.S. EPA investigation did not fully characterize the site. The owner of the property responded by noting that the 1999 Phase I Environmental Assessment and 2002 Site Assessment should provide the necessary information to receive an NFR. The disagreements were never resolved and the owner terminated the SRP review and Illinois EPA services on October 30, 2013.

In 2014, Illinois EPA conducted a Pre-CERCLA Screening Assessment in order to determine if a Preliminary Assessment should be conducted. Due to the potential of release from air and surface water routes as well as soil exposure risk, it was recommended that a PA should be conducted for the Schroud Property.

2.3 Regulatory Status

Based upon available file information the Schroud Property site does not appear to be subject to Resource Conservation and Recovery Act (RCRA) corrective action authorities. Information currently available does not indicate that the site is under the authority of the Atomic Energy Act (AEA), Uranium Mine Tailings Action (UMTRCA), or the Federal Insecticide Fungicide or Rodenticide Act (FIFRA).

Section 3.0 Field Inspection Activities

Section 3.1 Field Inspection

On July 8, 2015, the Office of Site Evaluation (OSE) conducted a site reconnaissance visit to the Schroud property on the corner of Avenue O and 126th Street. OSE officials found the site to be easily accessible, via a gravel road located near the northeast corner of the property, from 126th Street. There was no fencing or closed gate across the access road nor were there signs indicating “No Trespassing”, making the site easily accessible to intruders. OSE officials noted the presences of slag immediately upon entering the access road.

During the reconnaissance, thirty-one (31) field screening samples were recorded by an Innov-X, X-Ray Tube (XRF) device (see Figure 6). The XRF device tests the soil for inorganic constituents (heavy metals): in this instance, lead, manganese, and chromium were of particular interest. XRF readings during this reconnaissance targeted multiple areas of the property, including multiple piles, soil around wetlands, soil near a residential property, and slag-soil mixtures.

Section 3.2 XRF Data

Notes:

- Refer to Figure 6 for sample locations
- All concentrations in parts per million
- Underlined and bolded figures indicates highest concentration found of metal
- If XRF test number is skipped, it either indicates error or calibration

| | XRF 2 | XRF 3 | XRF 4 | XRF 5 | XRF 6 |
|-----------------------------|--------|--------|--------|----------------------|--------|
| Chromium concentration (Cr) | 3,889 | 1,509 | 3,390 | 4,176 | 4,807 |
| Manganese conc. (Mn) | 20,556 | 15,454 | 12,567 | <u>31,684</u> | 22,320 |
| Lead conc. (Pb) | 404 | 464 | 620 | 435 | 698 |

| | XRF 7 | XRF 8 | XRF 9 | XRF 10 | XRF 11 |
|----------|-------|--------|-------|--------|--------|
| Cr conc. | 2,242 | 3,489 | 0 | 0 | 1,283 |
| Mn conc. | 8,314 | 25,370 | 517 | 0 | 11,777 |
| Pb conc. | 623 | 621 | 97 | 0 | 627 |

| | XRF 12 | XRF 13 | XRF 14 | XRF 16 | XRF 17 |
|----------|--------|--------|--------|--------|--------|
| Cr conc. | 3,436 | 2,279 | 619 | 2,390 | 2,046 |
| Mn conc. | 25,102 | 16,912 | 3,525 | 13,237 | 11,168 |
| Pb conc. | 559 | 1,164 | 54 | 525 | 586 |

| | XRF 18 | XRF 19 | XRF 20 | XRF 21 | XRF 22 |
|----------|--------|---------------------|--------|--------|--------|
| Cr conc. | 2,936 | 1,053 | 2,496 | 4,054 | 4,054 |
| Mn conc. | 11,369 | 8,097 | 12,683 | 16,091 | 21,063 |
| Pb conc. | 383 | <u>2,071</u> | 433 | 803 | 752 |

| | XRF 23 | XRF 24 | XRF 25 | XRF 26 | XRF 27 |
|----------|--------|--------|--------|--------------|--------|
| Cr conc. | 2,603 | 3,549 | 0 | <u>7,407</u> | 4,029 |
| Mn conc. | 29,562 | 12,234 | 264 | 15,139 | 17,065 |
| Pb conc. | 351 | 223 | 107 | 483 | 552 |

| | XRF 28 | XRF 29 | XRF 30 | XRF 31 | XRF 32 | XRF 33 |
|----------|--------|--------|--------|--------|--------|--------|
| Cr conc. | 2,764 | 0 | 0 | 2,266 | 3,095 | 3,263 |
| Mn conc. | 12,656 | 219 | 219 | 12,373 | 15,346 | 17,767 |
| Pb conc. | 811 | 17 | 29 | 761 | 518 | 562 |

Section 3.3 Evidences of Human Intrusion

Activity appears to be widespread at the site. All-Terrain Vehicle (ATV) tracks suggested that four wheeling was common throughout the site. Some slag piles were noted to be heavily eroded from the activity. In addition, tracks from dirt bikes were observed. OSE officials also found charred remains of wood and circular stone placements; at the very least fires are started at the site, but people may seek out the isolated area for illegal camping as well. For these reasons, the Schroud Property appears to be a destination for various types of recreation.

The property is littered with examples of illegal dumping. Illegal dumping was present at the site access road crossing Indian Creek and was present throughout the property. Some wastes that were observed were household wastes, tires, yard waste, and construction debris.

OSE officials encountered a trespasser during their reconnaissance. A man was witnessed shoveling slag into his vehicle. After some questioning, the man had appeared to mistake the slag for gravel, which he was going to use at his house. It is possible that many others remove slag from the area and put it into close-contact areas.

Section 4.0 Pathway Discussions

Section 4.1 Groundwater Pathway

Groundwater contamination is not a primary concern of the site. Hazardous materials associated with the property (lead, manganese, chromium) have poor solubility. Moreover, the depth to the local aquifer is anywhere from 100 feet to over 300 feet below the soil surface. The City of Chicago issued a moratorium on using groundwater as drinking water; the groundwater pathway does not pose a significant threat for drinking water contamination.

Section 4.2 Surface Water Pathway

The surface water pathway is a major concern of the Schroud Property. Due to un-vegetated slag piles that have significant slopes, there is a possibility that contents of the site can easily wash away in heavy rains. Portions of the Schroud Property are prone to flooding, increasing the risk of releasing materials into surface water (see Figure 7). The probable point of entry (PPE) from the Schroud Property into Indian Creek is along the entire on-property length of Indian Creek, which is located on the northern end of the property. Indian Creek flows from Wolf Lake, through the northern end of the property, to the Calumet River northwest of the property, then flows into Lake Michigan. The total in-stream distance from the Schroud Property to the mouth of the Calumet River at Lake Michigan is approximately five miles (see Figure 5).

Targets along both the Calumet River and Indian Creek fit the 40 CFR 230.3 definition of a wetland environment (see Figure 4). Within 50 yards of the western border of the Schroud Property, there is a Palustrine emergent wetland that is semiannually flooded. This wetland not only has Indian Creek directly north of its boundary, the wetland itself is adjacent to the western part of the property. Three other Palustrine wetlands surround parts of Indian Creek before it drains into the Calumet River. A mile upstream from Indian Creek's entrance into the Calumet River is a Palustrine emergent wetland. Three surface water intakes are located approximately two and one half miles south-southeast of the mouth of the Calumet River within Lake Michigan. These intakes supply water to the Hammond Water Filtration Plant which treats lake water and provides drinking water to Hammond, Indiana residents. The closest surface water intake of the

Chicago Department of Water Management is located approximately six and one half miles north of the mouth of the Calumet River within Lake Michigan. This intake is the 68th Street Crib which is one of four intake cribs used by the City of Chicago. Water from the cribs is filtered, treated and distributed to the City of Chicago and approximately 125 suburban communities surrounding the city.

Satellite imagery suggests that some of the wetlands have faced significant development. However, potential contamination could be harmful to Indian Creek itself, an important location for salmon spawning, a faunal phenomenon that is uncommon in Illinois. Fishing is common from a park roadway bridge at the beginning of Indian Creek as well as from the banks on Wolf Lake as observed by IEPA personnel during the site reconnaissance for this PA. Park personnel also confirmed that salmon, rainbow trout, and other sport fish and rouge species are caught from these locations. Satellite imagery records discoloration in portions of Indian Creek touching the Schroud Property, indicating a potential release of materials from the site. Field inspections have confirmed the suspicious discolorations at the bottom of Indian Creek as a soft, whitish residue. The whitish residue is not present at the beginning on Indian Creek at Wolf Lake, nor is it present at the creek one half-mile downstream of the property. Until more data is received, it is unknown what this material is, as well as if the Schroud Property is the cause.

Section 4.3 Soil Exposure

A possibility exists for hazardous soil exposure on the site. It is already known that soil samples yielded chromium, lead, and manganese levels that surpassed Illinois Corrective Action Objectives for industrial and construction scenarios. The site itself is also accessible to trespassers: the roadway that opens up on 126th Street is ungated and unguarded. Trespassing through this route and reaching the piles is very easy. However, some parts of the property have buffers which would discourage wanderers. The northern half of the property is outlined by Indian Creek, forcing trespassers to go through the aforementioned road. The boundaries of the property to the west and east are surrounded by semi-flooded areas that appear to be overrun with phragmites. Still, the southern part of the property is easily accessible by crossing railroad tracks and traversing some small slag mounds. There appears to be heavy human activity at the

site despite its semi-buffered borders. Evidence exists of illegal dumping, four-wheeling, dirt-biking, and perhaps even camping. Moreover, OSE officials saw and contacted a trespasser on the property; a man was shoveling slag into his vehicle, mistaking it for free gravel and unaware of its heavy metal contents. The surrounding area is urbanized with 8428 people living within a mile radius of the property, according to census data from Arc View. The potential for situations like the trespasser to occur are very high. There are no daycares or schools within 200 feet of the property boundary, but there are multiple homes just beyond the border of the railroad tracks to the south.

Population near Schroud Property

| Distance (miles) | Population |
|------------------|------------|
| 0.25 | 545 |
| 0.5 | 2013 |
| 1.0 | 5,870 |
| 2.0 | 3,383 |
| 3.0 | 19,479 |
| 4.0 | 53,389 |

Source: Arc View and Census data

Section 4.4 Air Route

The slag piles on the property are not vegetated as indicated by field confirmation of satellite imagery. Field confirmation also indicates that the majority of the property surface covered with slag is also bare. Due to this, there is a possibility that debris and contents of the Schroud property can move to surrounding areas by wind. There are multiple sensitive environments that can be affected by windborne particulate movement. However, surface water and soil exposure pathways appear to be more concerning.

Section 5.0 Summary and Conclusion

The purpose of this Preliminary Assessment for the Schroud Property was to determine whether the site warrants further investigation under the Superfund Site Assessment Program. A Preliminary Assessment utilizes readily available information to differentiate sites that pose little risk to public and environmental health and those that require further investigation.

The Schroud Property was used as a slag dumping ground for LTV and Republic Steel for decades. Dumping ceased in the 1990's and the property was purchased by Donald Schroud, who intended to develop the property. Prior investigations identified elevated levels of lead, manganese, and chromium throughout the site. X-Ray Fluorescence data collected during a site reconnaissance also found significant presences of lead, chromium, and manganese. At this current time, no development has occurred on this property.

Soil exposure is the foremost concern of the site. Approximately the entire property is covered with potentially hazardous slag which could pose a serious threat to residents and trespassers. Little is covered by vegetation or topsoil. Thirty-one (31) XRF field screening samples found that metal concentrations on the site were elevated throughout the site and exceeded background levels. Many residents live close to the property; evidence exists that many nearby residents use the property for recreation or illegal dumping, potentially exposing them to elevated metal concentrations.

Surface water is also a significant concern at the site. Indian Creek flows through the property as it makes its way into the Calumet River. Slag piles and slopes create banks on Indian Creek, potentially exposing wildlife and sensitive environments to contamination. The target distance limit includes multiple wetlands and areas that could be used for fish consumption. Moreover, Indian Creek is a critical creek for spawning Chinook salmon, posing a threat to anadromous fish breeding grounds. The discoloration observed at the bottom of the creek may suggest the surface water route is affected by the Schroud Property.

The Schroud Property also poses a risk through potentially releasing particulates into the air. Very little of the materials at the property are buffered from winds and may be transported easily.

Groundwater poses little to no concern at the site due to a lack of targets. The City of Chicago has banned using wells for drinking water. Thus, the groundwater pathway does not appear to be impacted by the site.

Section 6.0 References

Phase I Environmental Site Assessment, Carnow, Corbear, and Associates Ltd., June, 1999.

Pre-CERCLIS Screening Assessment, Office of Site Evaluation, March, 2014.

Appendix A



Illinois Environmental Protection Agency
Bureau of Land

Digital Photographs from Reconnaissance

South Chicago, Illinois- Cook County



DATE: 7/8/15

TIME: 12:05 p.m.

NOTES: One of the many examples of illegal dumping on the Schroud Property



DATE: 7/8/15

TIME: 12:07 p.m.

NOTES: This is a photograph of Indian Creek right near XRF2 on Figure 6. Note the light-green discoloration of water as well as the unknown pale sediment at the bottom of the creek.



DATE: 7/8/15

TIME: 3:17 p.m.

NOTES: Indian Creek Headwaters at William Powers. Note Wolf Lake in the background. Also note how the water coloration is very different to that of Schroud Property. Water from Indian Creek at William Powers is a eutrophic brown versus the sickly light green recorded in the earlier photograph.



DATE: 7/8/15

TIME: 2:56 p.m.

NOTES: General scenery at the Schroud Property. Note the sparse vegetation and more examples of illegal dumping.

Figure 1
Schroud Property
Site Location Map

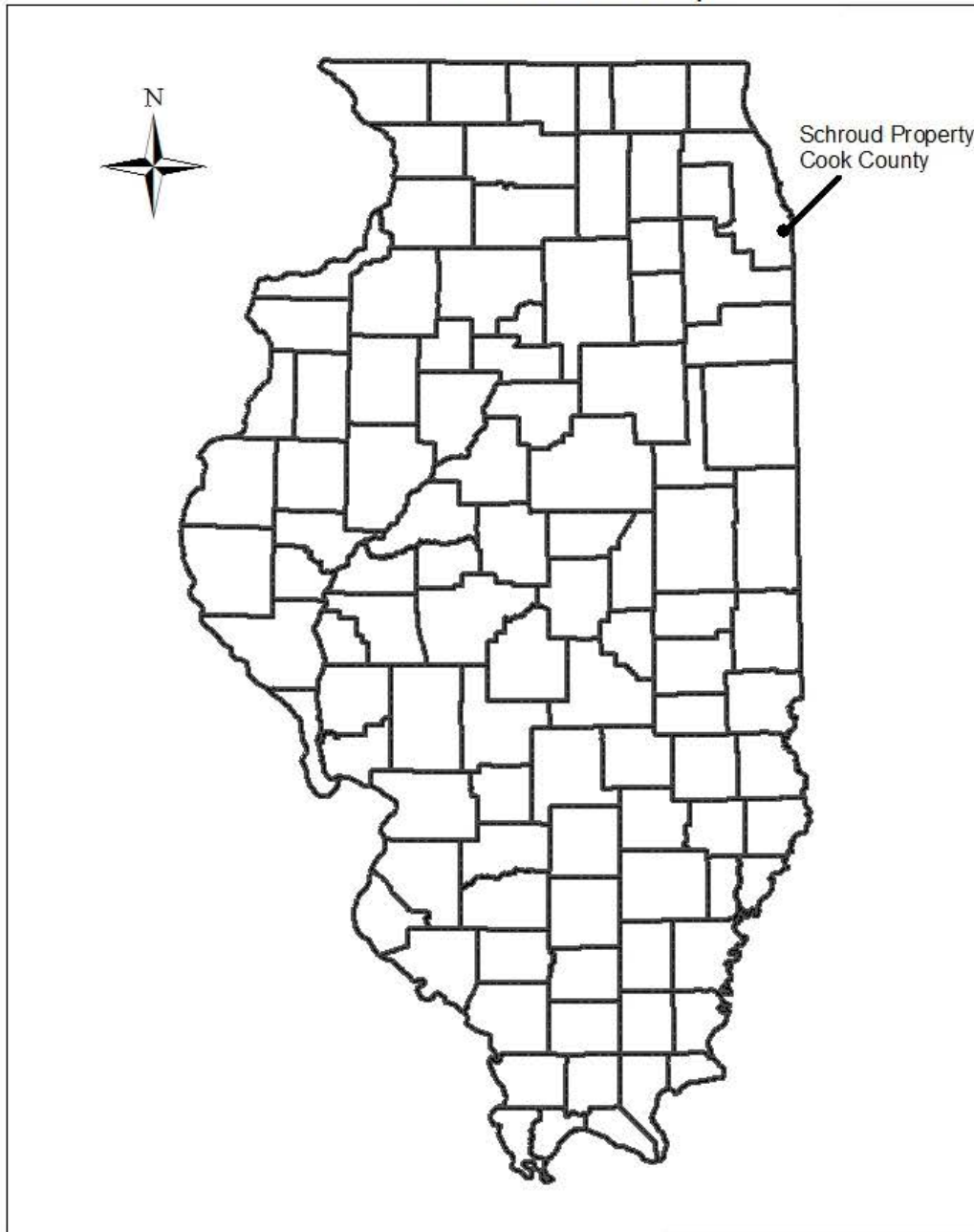


Figure 2
Aerial Location of Site



Figure 3
Four Mile Radius Map

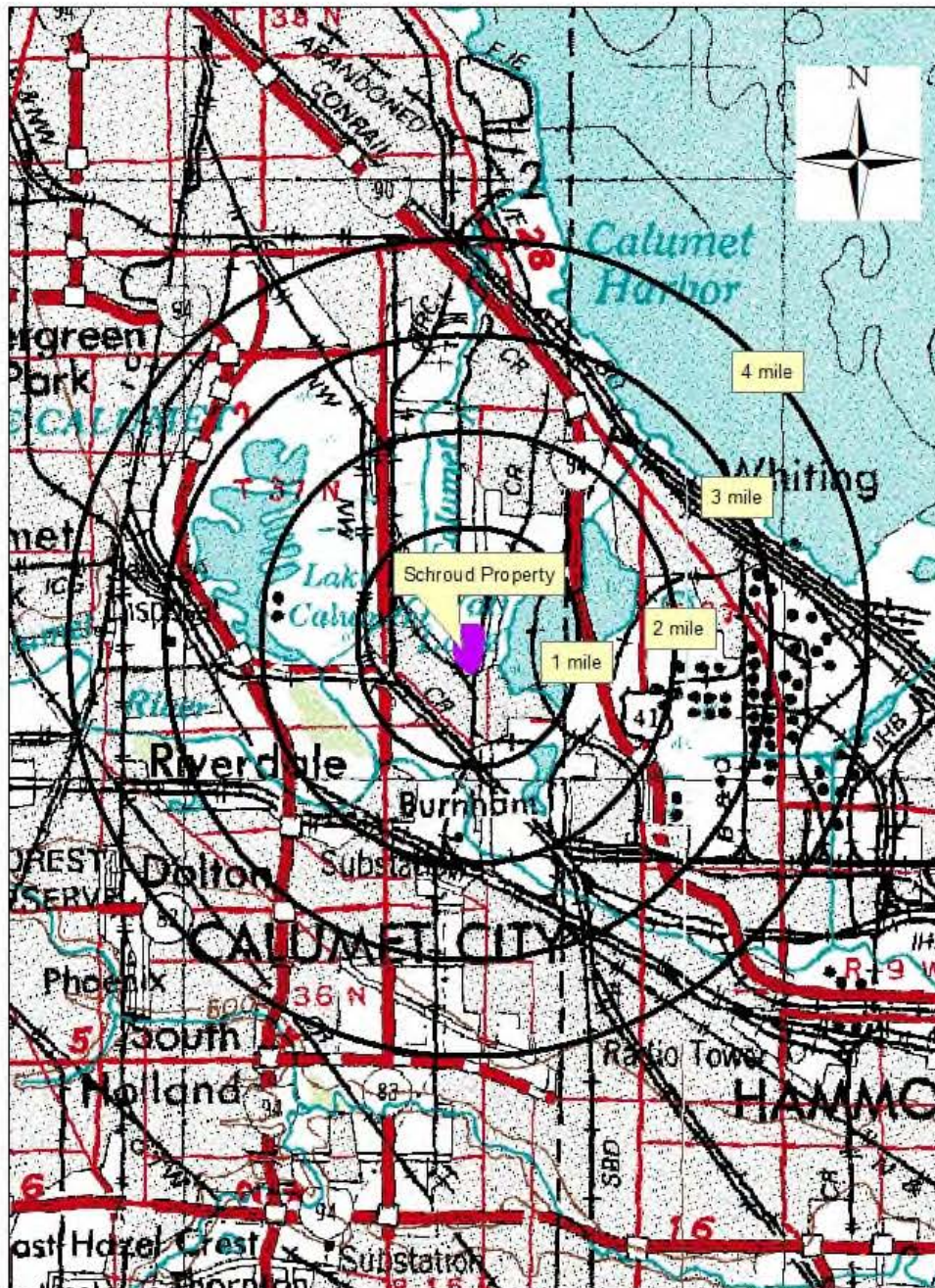


Figure 4
Wetlands Near Schroud Property

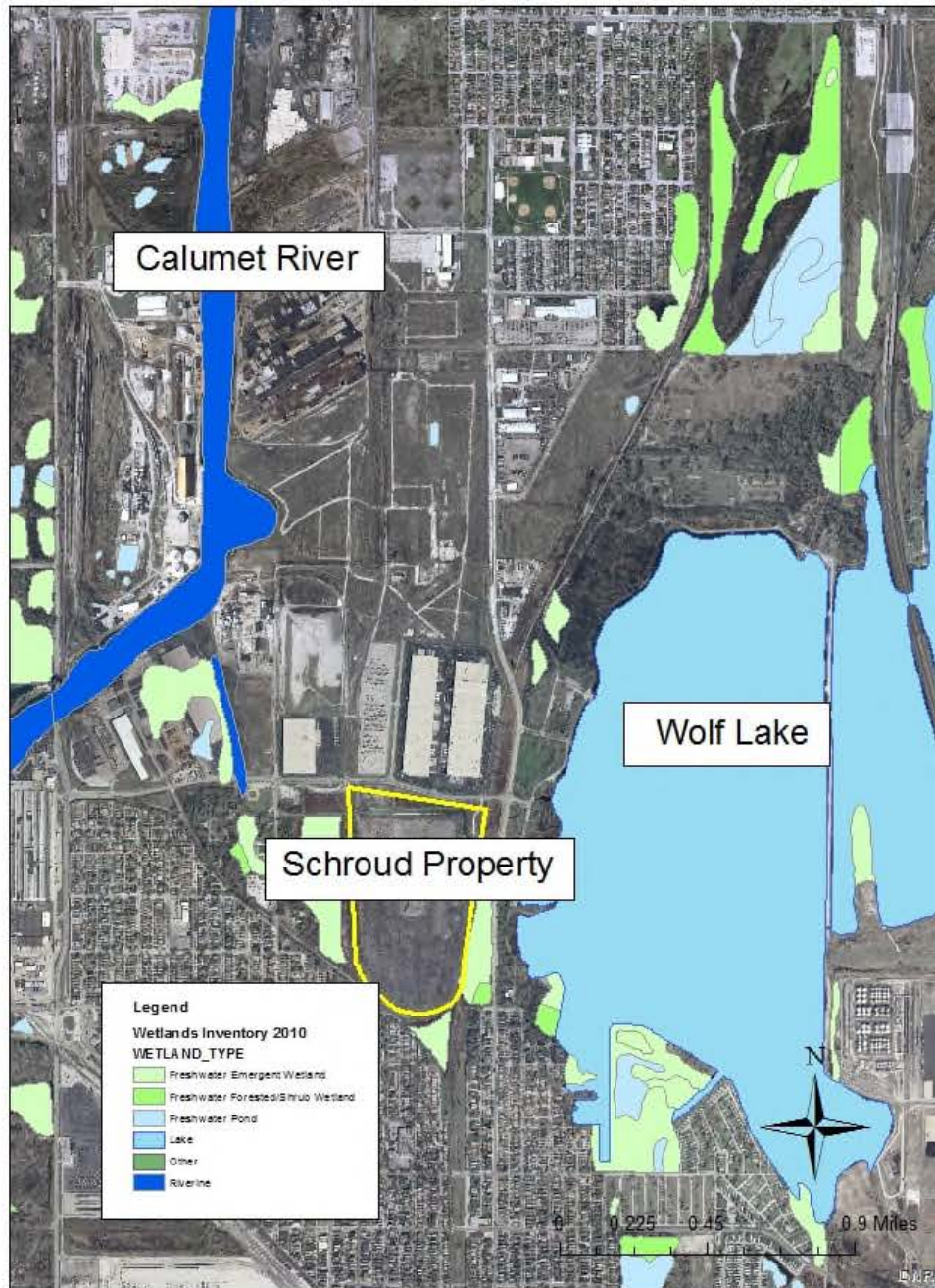


Figure 5
15 Mile TDL and Surface Water Intakes

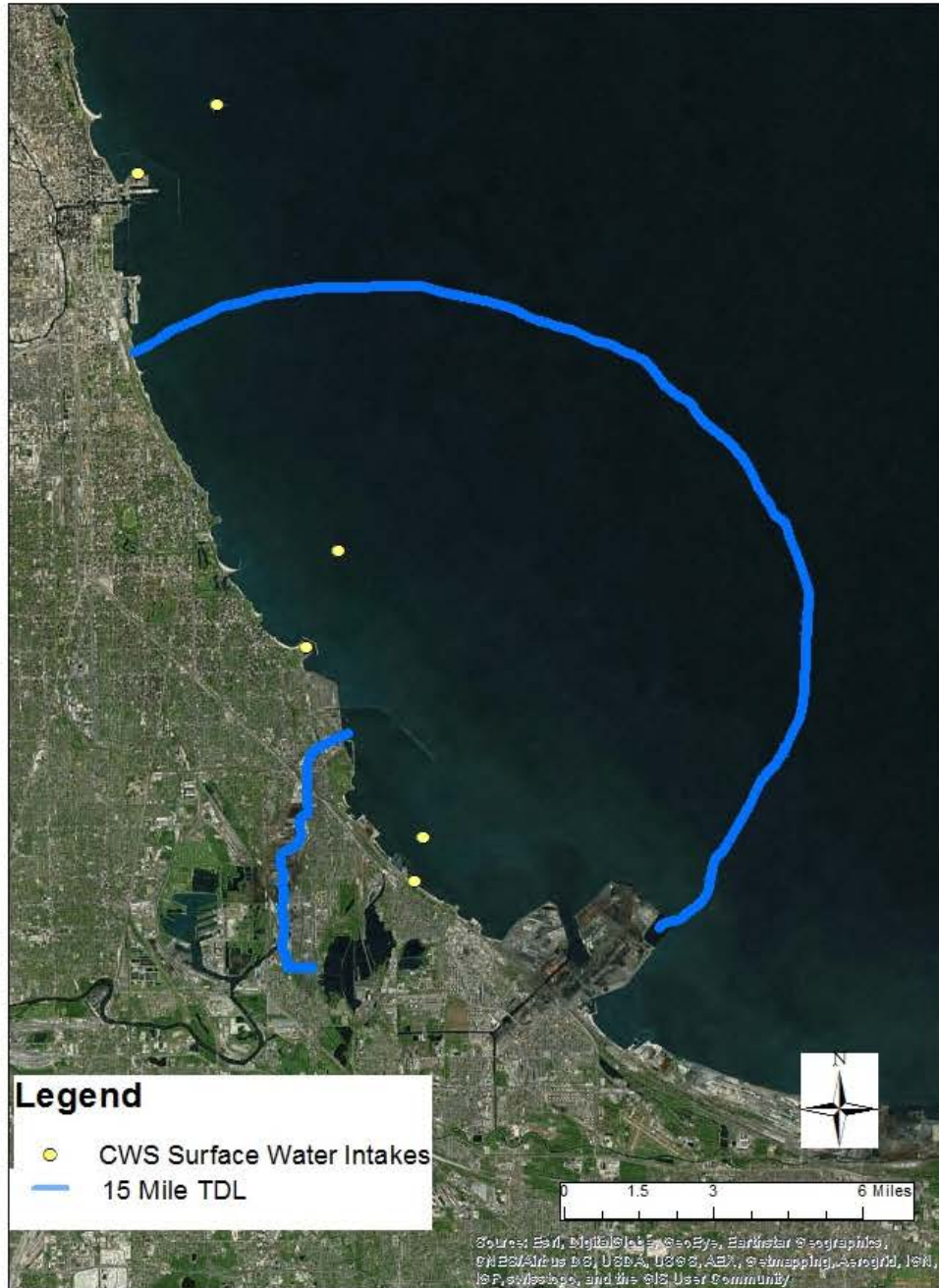


Figure 6
Approximate XRF Sampling Locations



Figure 7
FEMA 100 Year Flood Zones

